

## Equations of Circular Motion.

| For accelerated motion                           | For retarded motion                              |
|--------------------------------------------------|--------------------------------------------------|
| $\omega_2 = \omega_1 + \alpha t$                 | $\omega_2 = \omega_1 - \alpha t$                 |
| $\theta = \omega_1 t + \frac{1}{2} \alpha t^2$   | $\theta = \omega_1 t - \frac{1}{2} \alpha t^2$   |
| $\omega_2^2 = \omega_1^2 + 2\alpha \theta$       | $\omega_2^2 = \omega_1^2 - 2\alpha \theta$       |
| $\theta_n = \omega_1 + \frac{\alpha}{2}(2n - 1)$ | $\theta_n = \omega_1 - \frac{\alpha}{2}(2n - 1)$ |

Where

$\omega_1$  = Initial angular velocity of particle

$\omega_2$  = Final angular velocity of particle

$\alpha$  = Angular acceleration of particle

$\theta$  = Angle covered by the particle in time  $t$

$\theta_n$  = Angle covered by the particle in  $n^{\text{th}}$  second